



SUCCESSFUL CONSTRUCTION MANAGEMENT

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Agenda

Contracting Mechanisms

Risk Management

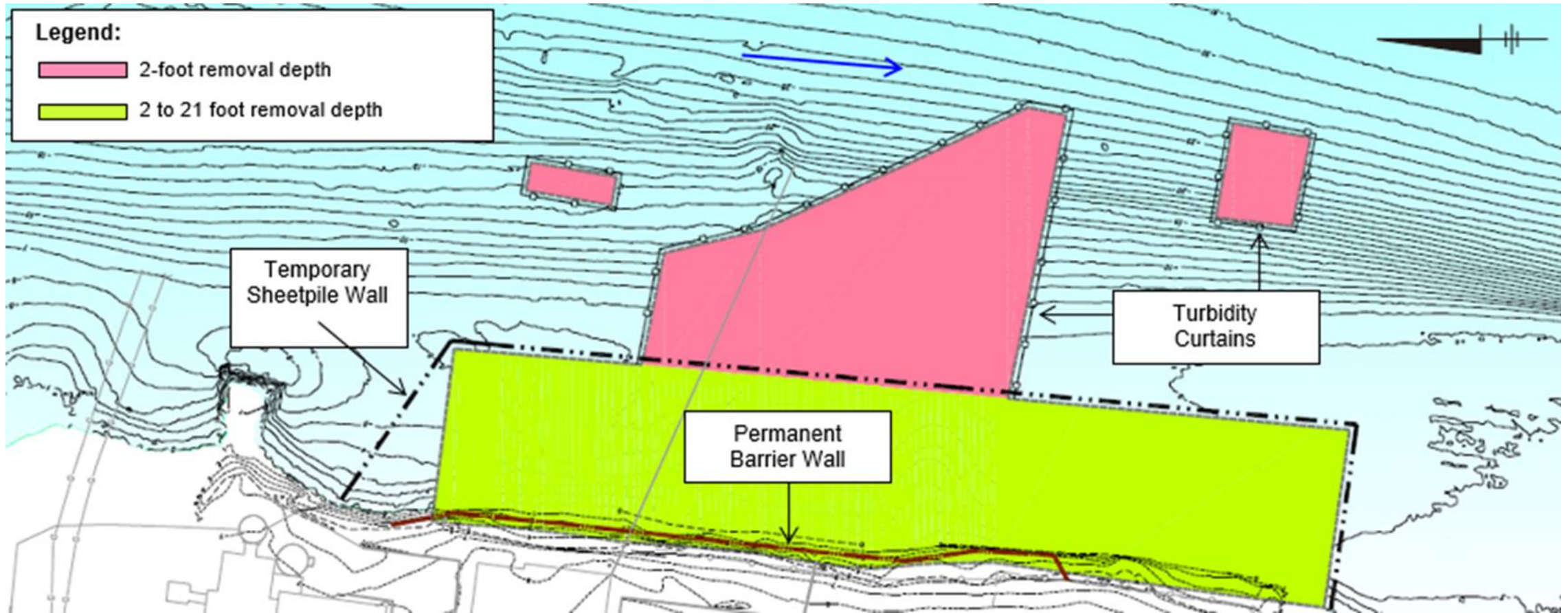
Construction Management



Contracting Mechanisms



Design bid build



Design build



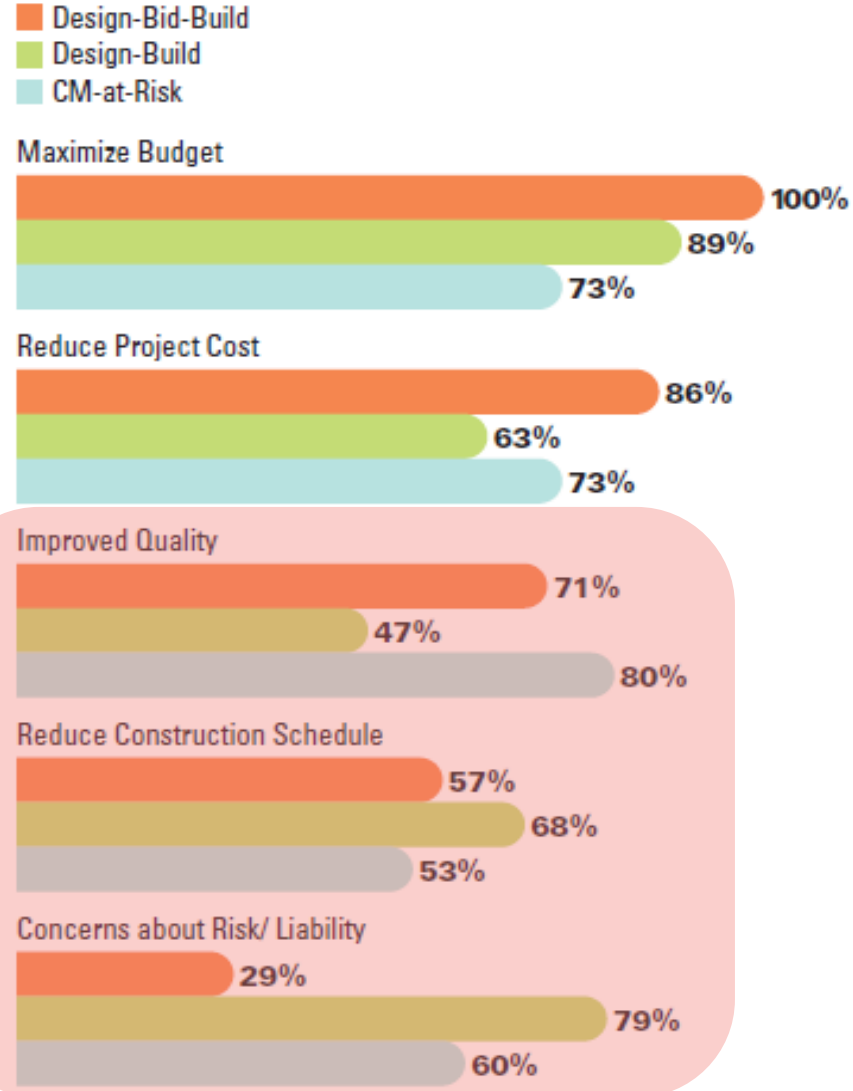
Alternative project delivery



Tenth International Conference on Remediation and Management of Contaminated Sediments

Most Influential Drivers for Increased Use of Delivery Systems (According to Owners)

Source: McGraw Hill Construction, 2014


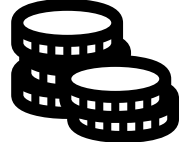

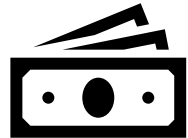

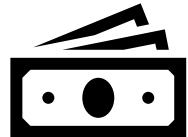


Design-Bid-Build is better here

but not here

SmartMarket Report McGraw Hill 2014

Contracting mechanisms

Contracting Mechanism	Schedule	Cost	Risk
Design bid build			Owner maintains risk
Design build			Significant shift of risk from owner to design build team
Alternative project delivery			Substantial shift of risk from owner to private sector

Misconceptions about alternative project delivery

- The Owner assumes no risks
- On time and within budget
- No disputes



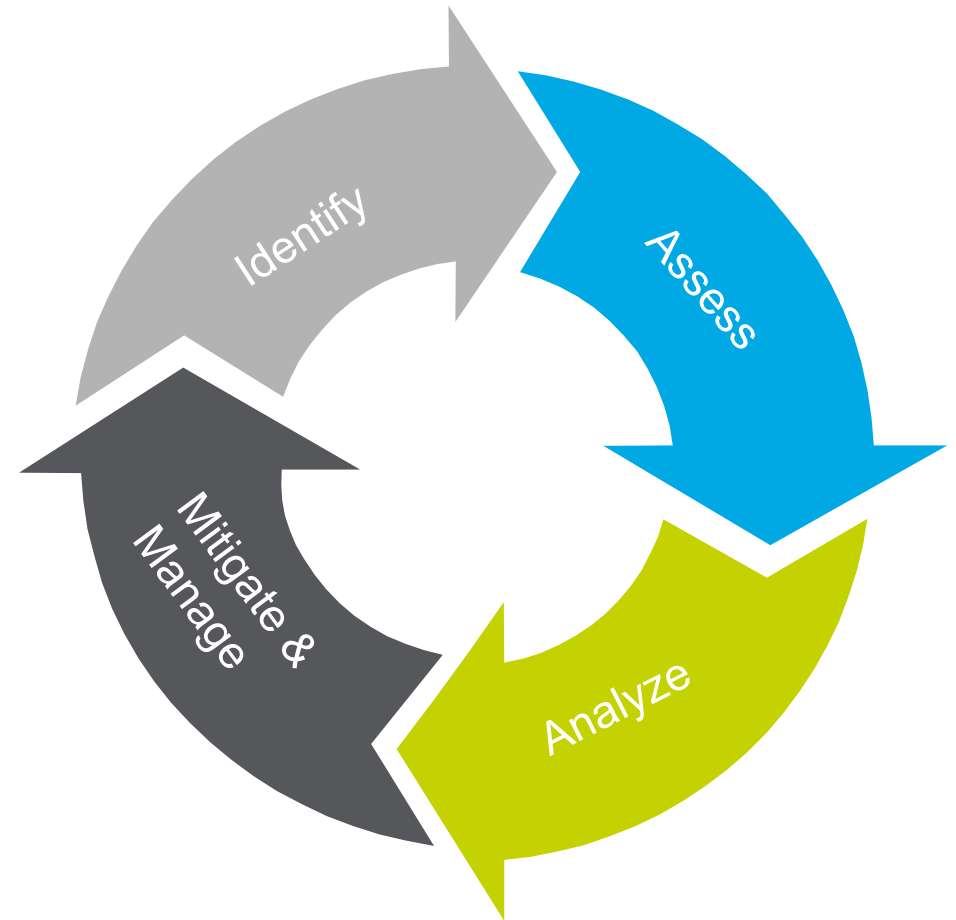
Risk Management

Risks

- Funding
- Design
- Interface with other Projects
- Third Party
- Agreements
- Environmental
- Weather
- Real Estate
- Construction
- Procurement
- Long Lead
- Inspection / Sign Off
- Legal & Regulatory
- Health & Safety

Risk management process

Risk management is the continuous process of identifying, assessing, analyzing, managing, and controlling the risks to the project.



Risk assessment process

Risk Register

ID	Description	Impact	Probability	Time	Cost	Complexity
14	Production for 2018 given beyond 2018. Could have 20-30% increase from today.	High	High	High	High	High
15	Production for 2019 given beyond 2019. Could have 20-30% increase from today.	High	High	High	High	High
16	Production for 2020 given beyond 2020. Could have 20-30% increase from today.	High	High	High	High	High

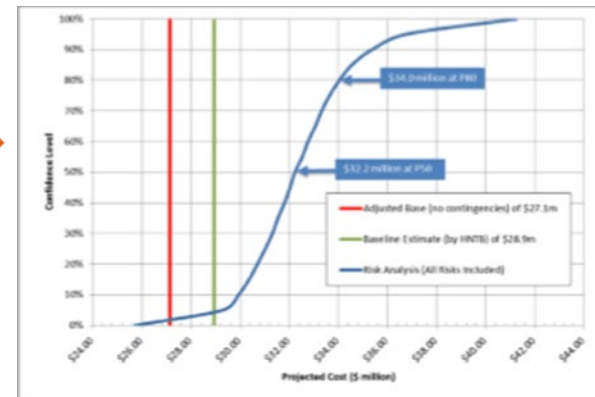
+ Baseline Budget

ID	Description	Start	End	Duration	Cost	Resources
1	Baseline Budget	2018-01-01	2018-12-31	365	\$26.5m	1000
2	Baseline Budget	2019-01-01	2019-12-31	365	\$26.5m	1000
3	Baseline Budget	2020-01-01	2020-12-31	365	\$26.5m	1000

+ Baseline Schedule

ID	Description	Start	End	Duration	Cost	Resources
1	Baseline Schedule	2018-01-01	2018-12-31	365	\$26.5m	1000
2	Baseline Schedule	2019-01-01	2019-12-31	365	\$26.5m	1000
3	Baseline Schedule	2020-01-01	2020-12-31	365	\$26.5m	1000

Risk Analysis



- Mitigation
- Strategy
- Management
- Decisions
- Contingency

Risk register

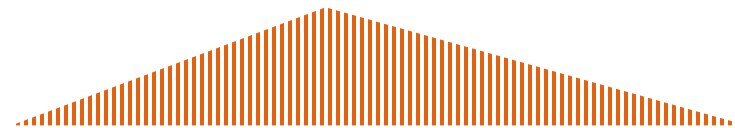
Risk ID	Risk Description	Probability Score	Time Impact Rating	Cost Impacting Rating	Total Risk Rating
1	Long lead delays for specialty material.	4	5	5	20
2	Contracting delayed.	5	3	2	13
3	Scope changes by regulator during construction.	3	3	3	9
4	Extreme weather events affect the site.	3	2	2	6
5	Complaints by public could result in reduced work hours, site access, etc.	1	2	1	2

Contingency



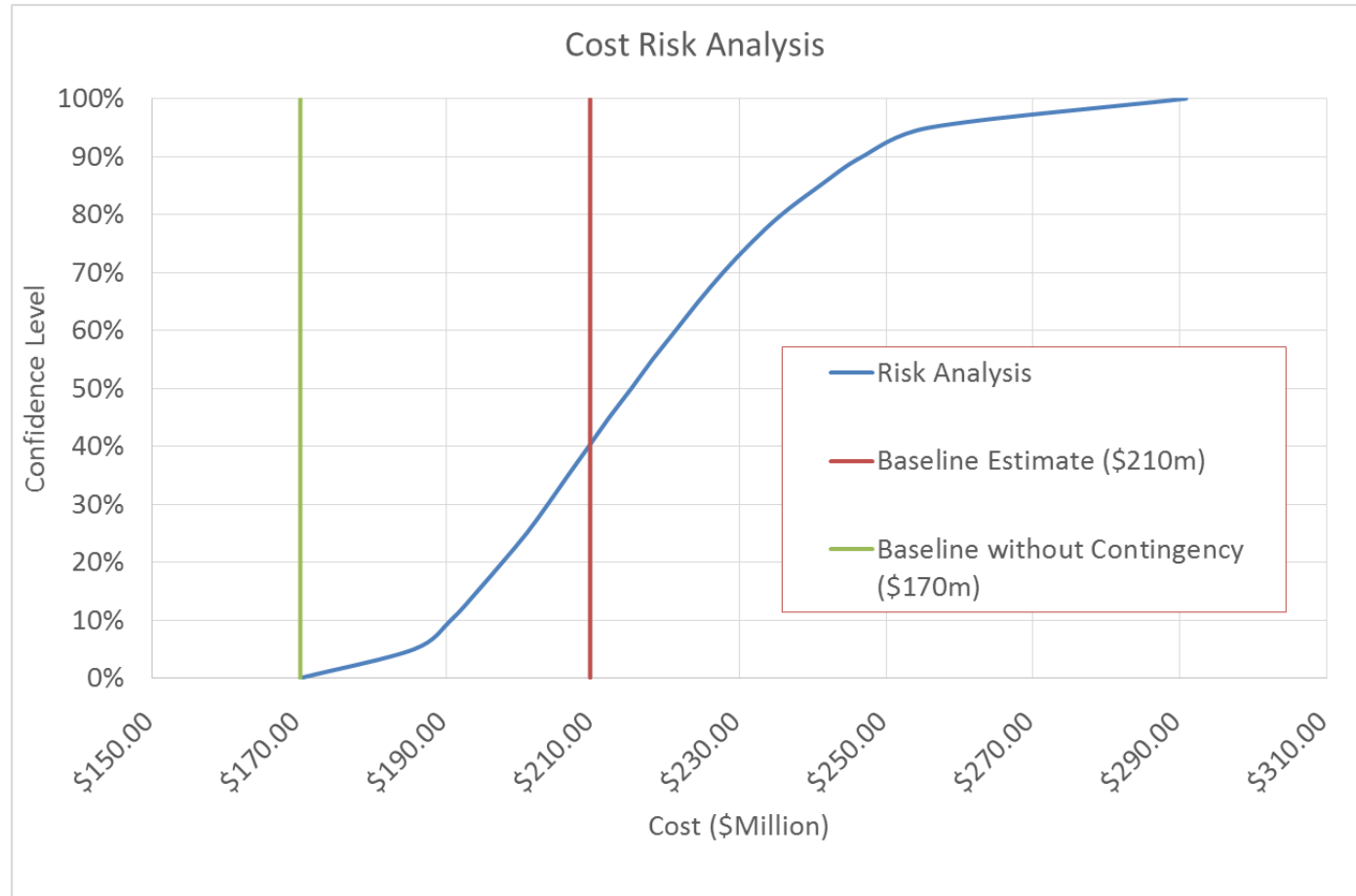
+ 10% = contingency

OR



= contingency

Cost risk analysis



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Procurement



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Execution



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Schedule



Budget



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Spearin doctrine



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Conclusion



**Contracting
Risk
management
Construction
management**

Your presenter



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